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Fifty Cents

Precision SHOOTING

a magazine for shooters by shooters

PRECISION SHOOTING

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NOTICE TO ADVERTISERS

PRECISION SHOOTING is printed by offset. Display copy is to be furnished by the advertiser. Advertising plates will be made from negatives, good black and white glossy prints or clear copy. Displays will be made to Advertiser's specifications. All normal composition will be set according to our own standards. Rate cards will be mailed to Advertisers on request.

In Memoriam

Philetus (Phil) Teachout, former editor of Shooter's News and Precision Shooting, died at his home in Lydonville, Vermont. Phil was 80 years old. His death occurred on October 29, 1974.

He leaves his wife, Gertrude, four sons, two daughters, seventeen grandchildren and 16 great-grandchildren.

A memorial service was held at the Congregational Church in Lydonville on Saturday, November 2 at 10:00 a.m. with four of his children and many friends in attendance.

Always active in shooting circles Phil spent many hours in bringing news and information to his readers. The pages of his issues were filled with variety, humor, facts and opinions. They made interesting reading.

Precision Shooting would like to take this opportunity to extend the sympathy of its entire readership to Mrs. Teachout and her family.

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"The Editor's Hour"

As reported in the November issue the reduction of 300 meter groups to their 300 yard equivalent involves a formula which was given as quite complicated. Stan Buchtel, NBRSA Eastern Region Deputy Director, reports that there is an easier way. According to Stan it is much simpler to take the 300 meter group and multiply by .914 to obtain the same results. If you are interested in figuring the differences between these two categories this method saves a lot of time. Thanks Stan!

* * *

During a conversation this fall Andy Fazio suggested that one of the IBS matches each year be set aside as a memorial match to honor the memory of departed shooters. We think that this is a nice suggestion and are throwing it out for whatever value it may have.

Since this is not on the agenda for the winter meeting it appears that it would be, at this point, a task for some individual club to pick up the ball and offer a memorial match to honor all departed shooters.

Several clubs now do this. Pine Tree has the Donaldson Memorial match in memory of Harvey Donaldson, the famous shooter who belonged to that club. South Creek offers the Harry Bente Memorial match as an honor to one of their former members.

The possibilities of this type of match, to recognize all former shooters, are great and it is our hope that someone will see fit to look into the matter.

* * *

Super Shoot III has been set for Midland, Texas. See the news release for that match elsewhere in this issue.

Included in this years program is Light Varmint competition with the winner to receive a trophy presented in memory of R. W. (Bob) Hart. This will be a permanent trophy with a keeper for the winner.

* * *

High Power shooters will be interested in the news that Hawkeye Sports, Inc., located at Box 1832, Des Moines, Iowa, 50310, is making a leather coat of the finest quality for that type of competition. Also available is an International (ISU) coat which is of the same quality.

I had an opportunity to look at one of these coats at the Freeland booth during the NRA convention last March. In talking with Joe Patton, who is the President of Hawkeye, I got the feeling that here is a product that will serve the shooter well over a long period of time.

Made in black leather these coats will retail at $150.00 for the NRA coat and $125.00 for the ISU coat. They are available from Freeland's Scope Stands, Inc., 3737 14th Ave., Rock Island, Ill. 61201.

* * *

This is the month of the IBS Winter Meeting which is being held at the Lodge on the Green Motel, Painted Post, N.Y. This meeting offers each shooter the opportunity to share in the business of the organization. All who attend have an opportunity to express their views on the agenda items. If you don't attend and gripe when it will do some good you had better be prepared to remain silent for a year for only the expression of opinions when they do the most good will see the suggested improvements that all of us are seeking. It is your obligation to assist in the operation of your sport by your attendance and participation in this important meeting.

Not to be overlooked are the social aspects of the gathering. Free from reloading, shooting or match sponsoring chores the IBS members get involved in many social activities which make for the passing of the time in a manner which makes the weekend much too short. See you at Painted Post.

* * *

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IBS Memo

IBS Targets — Charter and Life Members

100 or 200 yd. **BR Targets** are $27.50 per 1,000, less 10% to affiliated clubs, plus postage. **Hunter Targets** are $36.00 for 1,000, with same discount privilege to affiliated clubs. Mail order to: Donalee Stekl, R.D. 1, Robinson Road, Mohawk, N.Y. 13407 or to R.W. Hart. Nescopeck, Pa. 18635.

The annual membership fee is $9.00 — Life membership in IBS has been set at $125. Apply to the recording secretary for enrollment. IBS Affiliated Club Memberships $10.00

New rule books now available, with minor changes — plus IBS By-Laws at 50 cents per copy.

IBS Charter Membership Patches and regular patches are available at $2.00 each.

When ordering **Charter Membership patches** please indicate your 1970 Card number.

Single Shot Rifles

Claude E. Roderick
509 Fifth Street
Monett, Missouri 65708

NOTICE TO POPE RIFLE AND ACCESSORIES OWNERS

With the thought of possibly helping to get together copies of the original papers and/or original owner of your Pope outfit. Also, locating LOST false muzzles and bullet starters from Pope barrels made while he was located at Hartford, Connecticut, during the Stevens-Pope contract, and finally while located at Jersey City, N.J. the following offer is extended to any owners of Pope rifles, or LOST accessories.

I have presumedly the complete HARRY M. POPE files of data, invoices, correspondence, day book, signs, etc. I also have a lifetime collection of several hundred Pope barrel serial numbers from his three operations.

I will be glad to look into these files, and my cards to see if I can find anything on your Pope outfit, or any of the missing items mentioned. If so, I will mail you a "Zerox" copy of the originals up to a reasonable number for the nominal charge of $1.00 for having copies made.

To keep correspondence to a minimum I **MUST** have the following minimum data: Number on the false muzzle, number stamped or scratched inside the bullet starter, ALL stampings on top of the barrel and also underneath the forearm on bottom of barrel. If aluminum or brass starter, or square or diamond shape knurling on the false muzzle, barrel size and length, action make, model, and serial number.

Claude E. Roderick
509 Fifth Street
Monett, Missouri 65708
October 16, 1974

The Scope In Hunter Rifle Competition

as it appeared in the November issue, Page 10, was written by Dr. A. H. Garcelon, 133 State St., Augusta, Maine 04330.

Cover Story

This month's cover features the two winners of the 1974 I.B.S. International Hunter Rifle Championship. It was held at the Izaak Walton League on September 28th and 29th. It is unique, in a way, since both men on the cover, Bob Drexler on the left and Jim Loucks on the right, are fellow employees of the same company. They are the best of friends and, maybe more important, two of the hardest workers in bringing Hunter Class Matches to the Izaak Walton Range.

When they started shooting in these matches, Bob was using a Remington Varmint Model in 6mm. Jim started with an old Enfield 30.06 that appeared to have seen its day years before he was born.

As the years passed, Bob slowly graduated to a custom Hart Barreled 700 Rem. in .308 caliber and slowly started to work his way toward higher scores. Jim on the other hand, hung in there in the low 200's, still shooting contraptions he was convinced were going to give him the ultimate match score of 250-25X.

In 1970, Jim won the Hunter Class Championship with a score of 482-10X. His gun was a .308 Sako with a Chrome Moly Shilen barrel. For the 1974 championship matches, Bob finally put it all-together with his Rem. 700 action and a Hart barrel. His load was 39/4064 to shoot a winning Hunter Class score of 488-10X.

Jim was persistent to the point of being contrary and decided he was going to accomplish the ultimate feat and beat all these custom built rifles. He used a factory Winchester target rifle, cal. .308, a scope that a certain party thought he stuck him with and the real clincher to the whole deal, his load consisted of 46 grains of 4831 powder.

By the way, Jim's score for winning the Master Hunter Class was 492-17X. Good shooting fellows and congratulations from all.

by Lou Ressler

Super Shoot III

Skip Gordon, Super Shoot Director, has announced the award of Super Shoot III to the Permian Basin Rifle and Pistol Club of Midland, Texas. Super Shoot III will be held Tuesday, May 27 through Friday, May 30, 1975.

In keeping with an avowed aim to make the Super Shoot "a shoot for the shooters", Gordon has redesigned the format so that all shooters have the opportunity to fire the entire 24 match schedule.

The 1975 edition is the first **2** Gun Match, and will be open to LV and HV. There will be cash awards for every match, as well as for LV and HV aggregates. The big Pay Off, however, will be based on the 2 Gun Aggregate. Top Gun for the 4 day event will receive the prestigious John Zink Memorial Trophy.

There will be separate awards for Junior Shooters (under 19), and husband-wife teams. 4-member Teams will again compete for the GUN WORLD trophy. Because of the re-designed format, the shooters can make up their teams.

IMPORTANT: All Juniors, Husband-Wife teams, and 4-member teams MUST BE REGISTERED by April 1, 1975.

Pre-match registration is $40.00, per rifle, until April 1. After that date, the fee will be $55.00 per rifle. All registrations paid are subject to refund until April 1.

As in the past, all major trophies will be sponsored by the publications serving the shooting sports.

In order to accomodate the 250 competitors expected, the Permian Basin Club is adding 15 benches, bringing their firing line up to the 50, considered a minimum for handling a match of this size.

Skip Gordon has announced that a Permanent Trophy will be established as a memorial to the late Robert (Bob) Hart. It will be awarded to the Light Varmint Grand Aggregate winner at Super Shoot III, scheduled for Midland, Texas, May 27-30, 1975. The trophy will be designed and manufactured by V. H. Blackinton & Son of Attleboro Falls, Massachusetts. There will also be a keeper trophy.

Additional information, registration forms, etc., can be obtained by contacting:

Skip Gordon
BOARDS HEAD
342 Quaker Church Rd.
Bldg. No. 1 — No. 2
Dover, New Jersey 97801

PRESIDENT'S MESSAGE

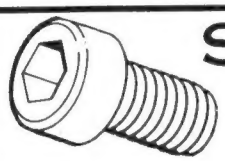
Goodby and thank you. Goodby in the sense that to have attempted to serve another tenure would have been an overdose of one track leadership for the organization. Thank you in that the office of president has been a part of one of the most broadening, educational and pleasurable epochs in my life. Only a fool would say that hindsight is not better than foresight and that he is always completely right. With this in mind some things would be done differently if they could be done again. Not that anything was done wrong but indubitably could, with the benefit of hindsight, be done better.

The seeking and liberal use of excellent counsel was the most valuable working tool ever available to this or any similar office. To name and thank individuals would be an injustice to all concerned. Suffice it to say that my undying gratitude is extended to all officers and committees of I.B.S. and Precision Shooting both past and present, elected or appointed.

The future may offer the benchrest world some revolutionary developments. While we agree with the philosophy that "progress requires change" we rebut with equal vigor "haste makes waste". The past indicates that we have been impulsive and hasty in adopting new rules, attitudes and fashions. We must begin to look well into our means and resources before we decide whether to indulge or not.

Any organization is a composite of all its parts and the parts determine its personality and destiny. The individual members owe it to themselves not to try a new fashion **"on for size"** unless they are willing to wear that fashion indefinitely and perhaps to their sorrow. Before making a choice we must ask ourselves; what do we want to look like? Where do we want to go? My brethren: **choose wisely.**

Sincerely,
Carl U. Lynn



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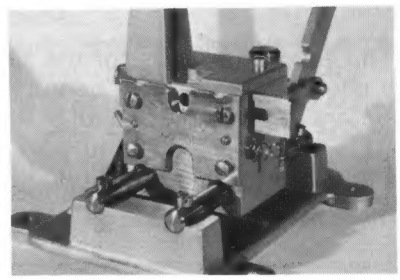

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Each shell holder will handle two sizes of case heads.

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Standard shell holder for .38 Spl. and .30-06. Extra shell holders (two cal.) for $3.30.

This cartridge primming tool allows you to clean and to inspect the all important primer pocket YET SPEND NO MORE TIME AT THE LOADING BENCH.

THE GUN CLINIC

81 Kale St. **Mahtomedi, Minn. 55115**

Technical Column

M.H. Walker
Technical Editor
R.D. 1, Warren Road
Mohawk, N.Y. 13407

6X47 STARTING LOADS

I have been reading your column in Precision Shooting with interest for several months. I hope that you can help me with some information and advice.

Recently I acquired a new Remington 40XB-BR in 6X47 with 20" stainless steel barrel. The only loading data that I can find is that from Precision Shooting. If you could send me a data sheet of loads for the 6X47 I would appreciate it.

In one of your articles you mention that bullets should be seated back from the lands except with H-380 powder. Can you advise how far back I should seat the bullets?

Any other tips that you can pass along will be appreciated.

Mr. Lindell Duggins
Star Route 2, Box 54
Socorro, New Mexico
87801

The following loads for the 6X47 are used by competitive bench rest shooters. I have not tried all of them so it is suggested that you work up to them with standard reloading caution.

(Ed. Note: The recently printed editions of the Speer and Hodgdon reloading manuals contain data on the 6X47. The Canadian readers may also include the excellent McCracken match bullets in the following data.)

With 70-grain Detsch and 70-grain Sierra Semi Boat Tail Hollow Point Bullets

Grains		Seating
28-29	Norma 203	to touch
24-25	RL7	to just miss
23-24	4198	either
30-30.5	H380	to touch
23-24.5	H4198	either
25-26	4895	to just miss
27-29	748	either

With 60-grain Sierra

24-25.5	RL7
23-24.5	4198
25.5-26.5	4895

The length of the throat in your rifle and the shape of the bullet ogive, as well as the bearing length of the bullet in the bore, will affect the load. In general long throats require bullets with long bearing lengths as well as slow powders. Different lots of bullets vary dimensionally and may require a change in the load. The H380 and the Norma 203 are well known slow powder loads. Seating depth will depend on the load used. Slow powders generally require seating out to touch the lands. Fast powders such as RL7, 4198, and H4198 generally require seating to just miss the lands. This is an individual thing depending on your rifle and your load. There is no set rule on seating depth. What works in one rifle may not work in another.

M. H. W.

FIRING PIN PROTRUSION

I seem to be picking your brains, but I am now interested in firing pin protrusion.

If you will recall many years ago I used to produce a one-piece firing pin for the Springfield 1903 rifle. I used to supply a firing pin protrusion gage .060 thick.

I have now been asked to supply gages for the Bench Rest boys and I imagine there are as many opinions on protrusion as there are people.

Did you ever write an article on firing pin protusion in Precision Shooting, and/or do you have any preference. Right now, I am thinking in terms of .060 minimum and .063 maximum for center-fire large and small primer rifles.

I will appreciate your comments as usual.

Mr. Dan Bechtel
B-Square Company
P.O. Box 11281
Fort Worth, Texas 76109

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Firing pin protrusion has not been covered in Precision Shooting, at least within the last five or six years.

According to the Sporting Arms and Ammunition Manufactuers' Institute the protusion should be enough to fully indent the primer according to their method of measuring firing pin indents. In center fire rifles the method described uses a hardened steel holder much like a head space gauge. But, in the center of the head on the bolt fact end a recess is made to hold a .225 dia.x.500 copper crusher. These copper crushers are made in quantity with close tolerances on both dimensions and hardness. They are used mainly for measuring pressure in Pressure-Velocity test barrels to control the production of ammunition.

Incidentally, copper crushers may not be made much longer for this purpose since Piezo transducers are in the process of being adopted for the measurement of pressure.

Indent measurement on firing pins consists of setting up a dial gauge, usually calibrated in .001" increments, with a pointer or stylus small enough to fit to the bottom of the firing pin indent in the copper crusher. The crusher is placed on a platen under the stylus and the dial gauge zeroed on the length of the crusher. The crusher is then placed in the hardened holder and the assembly placed in the chamber of the rifle. The crusher is then indented by the firing pin when the trigger is released. The crusher is then removed and placed on the platen with the stylus in the indent. The difference from the zero setting to the new reading gives the indent. As you can see this may include some shortening of the crusher. These indents in center fire rifles using a hemispherical point on a .075 Dia. firing pin should not be less than .018" nor more than about .026".

At last we get down to protrusion. The head to shoulder length on new factory ammunition can be sometimes as small as .008" under the specified maximum. The rifle's head space may after much use be as much as .008" over the specified minimum. This total of .016" must be added to the .026" indent to get the minimum protrusion which will always fully indent the primer. The result is .042". Ideally, if the most energy from the firing pin is desired, this .042" protrusion would give the most. As the firing pin protrusion is increased from this minimum the firing pin fall is shortened. This occurs due to the fact that the rifle is not indenting the primer to the full protrusion.

Since firing pin falls in modern bolt actions go from about .25 to .28, a reduction in fall of .030" adds up to over 10% reduction in energy. This is based on the energy being the product of force times distance. The result is that a firing pin with a protrusion of .070" does reduce the energy available in the firing pin blow from that available with, say, .050" protrusion. My own inclination would be to use .050 to .053", if the extra energy is desired, rather than .060 to .063". Some rifles have more main spring than is needed so extra protrusion in these could be desirable.

M. H. W.

HODGDON'S DATA MANUAL NO. 22

For some time the Hodgdon Powder Co., Inc., of Shawnee Mission, Kansas, has been providing its customers with a quality reloading manual based upon the Hodgdon line of powders and products for the reloader.

Manual No. 22 reached our desk recently and its pages were gleaned for whatever they had to offer. Much new information can be found in this attractively bound manual.

Most interesting to benchrest shooters is the inclusion of data for the 6mmX.222 and the 6X47. These relatively unknown, outside of benchrest circles, cartridges often receive little coverage in the data manuals of today. Thanks to Hodgdon's the reloader now has a base, complete with CUP (Copper Units of Pressure) figures, upon which to begin his quest for accuracy with these two rifle cartridges and Hodgdon powder.

Also included are many wildcat loadings of interest to shooters. Shotshell loading is discussed along with both jacketed and cast bullet loadings for rifle and pistol.

The entire Hodgdon product line is listed. This includes many non-powder articles for the shooter and reloader.

Many previous listings have been updated and increased for the benefit of the reader of this manual. Available from your local shooting supply store or direct from Hodgdon's this manual is a worthy addition to the reloading bookshelf.

R. R. M.

CLOWARD'S GUN SHOP

TARGET STOCKS

and Accessories—Dunlap and Cloward Designs, **JIM CLOWARD, 4023 Aurora Ave. N., Seattle, Washington 98103** Telephone: 206-632-2072

IBS Hunter Class Championships

Izaak Walton League, York, Pa.
September 28 and 29, 1974

Cover Story and photo captions by Lou Ressler, 832 Gunnison Road, York, Pa. 17404.

Master Class	Score	Cal.	Rifle	Scope	Load	Bullet	Case	Primer
1. J. Loucks*	492-17	308	Win.	Bushnell	46 Gr.	168 Gr.	Win.	Rem.
York, Pa.			Win.	6X	4831	Sierra		
2. Guy Green	487-15	308	Rem.	Pecar	39 Gr.	168 Gr.	Norma	Alcan
Hughesville, Pa.			Hart	6X	4064	Sierra		
3. G. Long	486-17	308	Rem.	Leupold	39 Gr.	168 Gr.	Rem.	Rem.
Millville			Hart	3X9	4064	Sierra		
4. P. Thompson	486-14	308	Rem.	Weaver	40 Gr.	168 Gr.	Govt.	Fed.
Dauphin, Pa.			Hart	V12	4064	Sierra		
5. S. Masker	484-14	308	Rem.	Leupold	47 1/2 Gr.	168 Gr.	Rem.	Fed.
Pleasantville, N.Y.			Hart	6X	H380	Sierra		
6. R. Linn	483-11	308	Rem.	Redfld	38 1/2 Gr.	168 Gr.	Win.	Rem.
York, Pa.			Hart	6X	3031	Sierra		
7. E. Gates	481-13	308	Rem.	Weaver	42 Gr.	168 Gr.	Rem.	Rem.
Harrisburg, Pa			Hart	V9	4895	Sierra		
8. G. Driscoll	480-11	308	Rem.	Lyman	38 Gr.	168 Gr.	Win.	Rem.
Boothwyn, Pa.			Dgls	6X	4064	Sierra		
9. L. Ressler	478-10	308	Rem.	Weaver	39 Gr.	168 Gr.	Win.	Win.
York, Pa.			Hart	K6	3031	Sierra		
10. C. Driscoll	477-12	308	Rem.	Lyman	38 Gr.	168 Gr.	Win.	Rem.
Forksville, Pa.			Dgls	6X	4064	Sierra		
11. F. Hass, Jr.	477-12	308	Rem.	Weaver	41 Gr.	168 Gr.	Rem.	CCI
Jersey City, N.J.			Hart	V9	4895	Sierra		
12. P. Olewine	473-11	243X47	Rem.	Pecar	35 Gr.	70 Gr.	Win.	Fed.
Dauphin, Pa.			Hart	6X	4064	—		
13. C. Gates	470-6	243	Rem.	Leupold	33 Gr.	75 Gr.	Rem.	Fed.
Harrisburg, Pa.			Hart	3X9	4895	Sierra		
14. J. Trela	469-9	308	Rem.	Weaver	40 Gr.	168 Gr.	Rem.	Rem.
Elizabeth, N.J.			Hart	K6	4064	Sierra		
15. C. Eckrote	467-6	308	Rem.	Weaver	40 Gr.	168 Gr.	Rem.	Rem.
Drums, Pa.			Hart	V12	4064	Sierra		
16. A. Hidalgo, Sr.	456-4	30X47	Rem.	Leupold	37 Gr.	150 Gr.	Rem.	Fed.
Carteret, N.J.			Hart	6X	RL-11	Sierra		
17. W. Barron	442-5	308	Rem.	Weaver	40 Gr.	168 Gr.	Rem.	Rem.
York, Pa.			Douglas	K6	748	Sierra		Mag.
18. L. Loucks	240-5	308	Rem.	Redfld	41 Gr.	168 Gr.	Win.	Rem.
York, Pa. (9/29)			Dgls	6X	4895	Sierra		
19. R. Reinoehl	239-7	308	Rem.	Lyman	39 Gr.	168 Gr.	Win.	Rem.
Shoemakersville			Rem.	6X	3031	Sierra		
20. W. Fink	236-5	308	Rem.	Lyman	44 1/2 Gr.	168 Gr.	Rem.	CCI
Hamburg, Pa.			Dgls.	6X	760	Sierra		BR2

The view from the rear of the firing line at Yor shooters.

Walt Pereira gives advice (we hope)

Range Chairman, Lou Ressler, presents the trophies and best wishes to Bob Drexler for winning the Hunter Class with a 488-10X score.

The trophy winners at the IBS Hunter Class Cha York, Pa. are: Left to Right, Lester Krall, second first Master and Guy Green, second Master.

York reveals the dry and clean facilities for the

e) to Tony Hidalgo, Jr. between relays.

hampionships, held at the Izaak Walton League, nd Hunter, Bob Drexler, first Hunter, Jim Loucks,

Hunter

1. R. Drexler*	488-10	308	Rem.	Weaver	39 Gr.	168 Gr.	Win.	Rem.
Churchville, Pa.			Hart	K6	4064	Sierra		
2. L. Krall*	483-19	308	Rem.	Redfld.	38 Gr.	168 Gr.	Win.	Rem.
York, Pa.			Hart	6X	3031	Sierra		
3. W. Pereira	482-11	6MM	Rem.	Leupold	36.2Gr.	70 Gr.	Rem.	Fed.
E. Brunswick, N.J.			Hart	6X	H380	Detsch		
4. W. Hauze	481-7	308	Rem.	Weaver	39 Gr.	168 Gr.	Win.	Rem.
Sugarloaf, Pa.			Hart	V9	4064	Sierra		
5. G. Nagy	479-10	308	Rem.	Redfld.	40 Gr.	168 Gr.	Win.	CCI
Highland Park, N.J.			Hart	6X	H335	Sierra		
6. J. Nagy	473-8	308	Rem.	Redfld.	41 Gr.	168 Gr.	Win.	Rem.
Soperville, N.J.			Hart	6X	4895	Sierra		
7. Edna Hass	471-11	308	Rem.	Weaver	43 Gr.	168 Gr.	Win.	CCI
Jersey City, N.J.			Hart	V9	H380	Sierra		
8. V. Pastorella	469-6	308	Rem.	Leupold	41 Gr.	168 Gr.	Govt.	CCI
Milnesville, Pa.			Dgls.	3X9	4895	Sierra		
9. C. Eppley	465-8	6/250	Rem.	Weaver	37 Gr.	75 Gr.	Win.	CCI
Dallastown, Pa.			Hart	K6	4831	Sierra		Mag.
10. A. Hidalgo, Jr.	462-4	308	Win.	Weaver	40 Gr.	168 Gr.	Win.	Fed.
Carteret, N.J.			—	K6	4064	Sierra		
11. C. Pardoe	459-6	308	Rem.	Leupold	39 Gr.	168 Gr.	Norma	Rem.
Muncy, Pa.			Hart	3X9	3031	Sierra		
12. J. Novak	457-5	308	Rem.	Weaver	39 Gr.	168 Gr.	Govt.	Win.
Union, N.J.			Rem.	K6	4895	Sierra		
13. C. McElwee, Sr.	457-5	6/250	Rem.	Nickel	33.7 Gr.	70 Gr.	Win.	Fed.
Dauphin, Pa.			Hart	6X	4895	Nosler		
14. C. Smith	448-8	308	Rem.	Redfld.	—	—	—	Rem.
York, Pa.			Hart	6X				
15. N. McCann	439-4	6MM	Rem.	Weaver	39 Gr.	60 Gr.	Rem.	Rem.
Glen Rock, Pa.			Rem.	K6	4895	Sierra		
16. C. McElwee, Jr.	438-1	6/250	Rem.	Weaver	33.7 Gr.	70 Gr.	Win.	Fed.
Dauphin, Pa.			Hart	3X9	4895	Nosler		
17. E. Mordan	432-5	308	FN	Bushnell	37 Gr.	168 Gr.	Rem.	Rem.
Millville, Pa.			Shln	3X9	3031	Sierra		
Marksman								
1. L. Paulison	417-3	308	Rem.	Leupold	41.4	168 Gr.	Rem.	Rem.
Parlin, N.J.			Rem.	3X9	4895	Sierra		

Trophies Awarded

High for the day Saturday
Jim Loucks 247-9

High for the day Sunday
Bob Drexler 246-4

Grand Aggregate Winners

Master		**Hunter**	
1. Jim Loucks	492-17	1. Bob Drexler	488-10
2. Guy Green	487-15	2. Les Krall	483-19

Most X's for the shoot
Les Krall 19

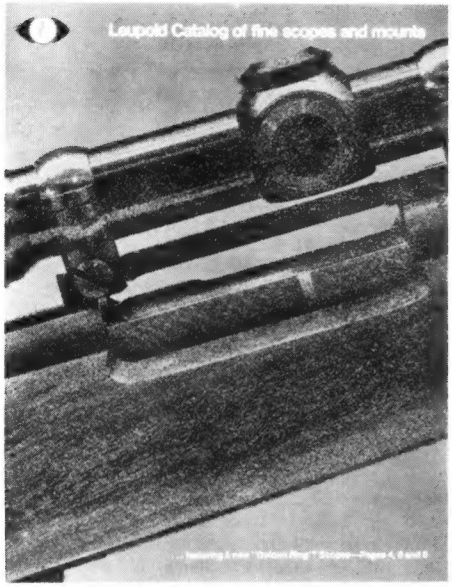
Due to the cooperation of many Companies and Publishers, we were able to give awards up to and including 7th place.

We had a very nice shoot in spite of the rainy weather. We had 39 shooters which was a very nice group for this event. With planning we can make it a bigger shoot next year. No perfect targets or scores were shot. but I think the weather was a big factor in that respect. Defending champion Guy Green bowed to Jim Loucks deadly accuracy this year. Congratulations Jim, nice to have the trophy in York this year. Thanks to all who helped in the kitchen, scoring, running targets, etc. Also thanks to all the out-of-town shooters and hope they will be back in the future.

R. A. Linn, Secretary

Jim Loucks receives trophies and congratulations from Range Chairman, Lou Ressler, for his winning Master Class score of 492-17X.

NEW 1974 LEUPOLD SCOPE AND MOUNT CATALOG



A 16-page, full-color catalog, available from Leupold & Stevens, Inc., shows the entire line of 15 Leupold "Golden Ring" scopes and the "STD" MOUNT. Detailed descriptions, specifications and reticle styles are included.

The Leupold Catalog features five new scopes. Three of the models are in a completely new series of variable-power scopes called the Vari-X III. Designed around an "Anastigmat" power-changing optical system, the new scopes offer unusual clarity and brilliance in power ranges of 1.5x5, 2.5x8 and 3.5x10. Another variable-power scope, a 1x4, has been added to the firm's popular Vari-X II series. And, the introduction of a compact 24-power scope, the M8-24X, is Leupold's first entry into the target scope field.

For a free catalog or more information, write Leupold & Stevens, Inc., P.O. Box 688, Beaverton, Oregon 97005.

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INTERNATIONAL BENCHREST SHOOTERS MATCH COUNCIL CUP RIFLE RANGE, WAPWALLOPEN, PA. SEPTEMBER 28 and 29, 1974

by R. R. Moorhead

Following the trend established earlier this season the crowd was lower than anticipated. The IBS Hunter Championships in York, Pa. also took a few shooters away from the attendance. The more leisurely pace was enjoyed by all and closed out a very busy season.

This match was the first to be run by the Hart family after the loss of Bob and they were a little tense at first. Responding in a typically Hart fashion they ran a very good match and quickly established a routine which worked quite well. Tom Slusser picked up the chores of range office and did a fine job while Wally tended to other business.

Aside from a threat by the weather there were no problems and a successful match was completed with plenty of daylight left for the return journey home.

John Eaton

Al Handschuh

Picking up another trophy is John Eaton (above left) who won the Experimental class with a .5151 aggregate. John used a 22-45 for his victory.

Experimental Class

Cal.	Action	Scope	Barrel	Gunsmith	Stocker	Load	Bullet
22-45	Stolle	Unertl	Garrott	Stolle	Stolle	23.5-4198	Culver 52

Second place was captured by Al Handschuh (above right) with a .5329 aggregate. Al had earlier won the 100 yard event but could not hold for the 200 yard stage.

222RM	Hart	Unertl	Hart	Hart	Self	20.5-4198	Rem. 52

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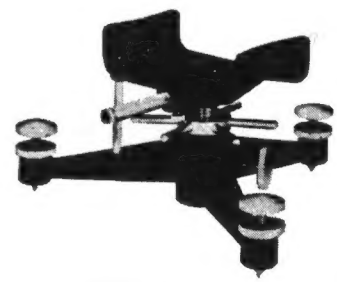

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Left — Carl Lynn

Above — Malcolm Barron

Heavy Bench was to be the place for Carl Lynn (left) as he continued his winning ways as learned through the IBS Championship at Pine Tree earlier in September. Carl turned in a .4995 aggregate with his 6X47 rifle.

Heavy Bench

6X47	Hart	Unertl	Hart	Hart	CPHart&Self	29.5-748	Detsch Own

Malcolm Barron (above right) turned in a .5332 performance to win second spot in the Heavy Bench competition. A happy Mal picks up his trophy from Carl Lynn.

222 1/2	Rem.	Redfield	Hart	Unknown	Unknown	22.5RL7	Sherman 52
308	Rem.	Unertl	Hart	Hart	Reece	41-4895	Sierra 168

Ron Pupek **Dr. Lewis Knox**

Ron Pupek, a frequent winner in Heavy Bench, is shown receiving his trophy for a .5810 third place finish.

222M	Hart	Unertl	Hart	Hart	Hart	26.5-4895	REM HP52

HEAVY VARMINT

John Eaton dominated the competition in Heavy Varmint as well as in Experimental. His .3876 aggregate was .102 ahead of his closest rival.

22-45	Stolle	Lyn/Sieb	Garrott	Stolle	Eaton	22.5-4198	Culver 52

Dr. Lewis Knox (above right) was the man who was .102 behind John Eaton but a .3978 aggregate is not bad in itself so Doc was quite happy.

6X47	Hart	Lyman	Hart	Hart	Hart	24 1/2-27	68 1/2 gr.

Art Blensinger was the third place winner with a .4241 aggregate. Being a little camera-shy Art had left for home earlier and was not able to pick up his trophy.

222 1/2	40X	Lyman	Hart	Boughton	Rem.	26.8-4895	Detsch 53

WINNERS
Warm Up Match — 100 Yards

Exp. — Rick Hornbeck ..... .408
Heavy Bench — Carl Lynn ..... .352
Heavy Varmint — Malcolm Barron ..... .145

WINNERS
Warm Up Match — 200 Yards

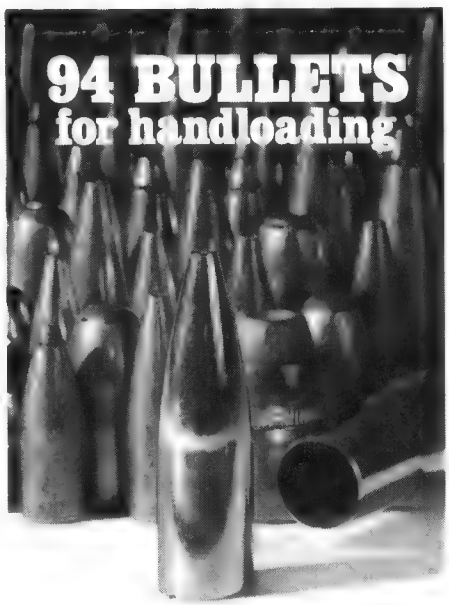
Exp. — Alfred Handschuh ..... .900
Heavy Bench — Malcolm Barron 1.055
Heavy Varmint — Lewis Knox ..... .537

EVERGLADES BENCHREST CLUB 1974 MATCH SCHEDULE

Febrary 8 and 9 — Light and Heavy Varmint, SUNSHINE STATE INVITATIONAL. IBS Registered.
April 13 — Club shoot.
May 11 — Club shoot
June 8 — Club shoot
July 13 — Club shoot
August 10 — Club shoot
September 14 — Experimental, IBS Registered
October 12 — Club shoot
December 14 — Club shoot

For further information please contact:

Les or Merelynn
(Frosty) Schimpf
6708 Farragut St.
Hollywood, Fla. 33024



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by Lt. Col. Rick Hornbeck
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Pine Bush, New York 12566

THE MAKING OF BETTER BULLETS

The Benchrester who makes his own bullets has very few excuses not to produce a near perfect bullet. The quality of dies that can be obtained is at the height of perfection, thanks to the devoted individuals that put much know-how, sweat and attention into their work. Properly cared for, and used, a die set will give flawless performance for an extended period of time and produce all the top quality bullets we can shoot year after year.

The products necessary, in addition to the dies and an adequate press, are an area where we must live with what we can get, at least to some extent. I inject "adequate press" because not all presses are proper for the job. I kicked that around in these pages in the March 1971 issue. We get our lead wire and jackets from any of a number of sources and have little control over what we get outside of selectivity after we have it home and paid for.

As for lead wire, the industry has standards which have been around for a number of years. As in all things, however, each manufacturer makes slight changes to these standards due to the needs of the people he supplies, ores available, cost, etc. Because we, the homemade bullet maker, are a minor buyer of his wire, we get what he can afford to give us. We are fortunate indeed to have suppliers that give us good, clean, pure lead.

You might find it interesting to look at the basic composition of lead. The following chart will offer some insight.

	Chemical Lead	Common Desilvered Lead A	Common Desilvered Lead B
Silver, Max.	0.020	0.002	0.002
Silver, Min.	0.002		
Copper, Max.	0.080	0.0025	0.0025
Copper, Min.	0.040		
Arsenic, Antimony and Tin, Max.	0.002	0.015	0.015
Zinc, Max.	0.001	0.002	0.002
Iron, Max.	0.002	0.002	0.002
Bismuth, Max.	0.005	0.15	0.25
Lead, Min.	99.90	99.85	99.73

Chemical Lead is undesilvered lead from southeastern Missouri ores. We can see that some rather fine-line standards are maintained by this industry. So, if we buy our lead from a source with a primary business in this sort of product, we can assume we are getting our money's worth.

For our needs we want lead wire that is clean. When we obtain wire from a new source, we are in the habit of melting some down and fluxing it well to see just how much dirt and foreign matter we can get out of it. By always melting down the same amount, some sort of gauge is established as to which source is the cleanest. Some sources provide mighty poor products for our purpose. The grit in the lead surely will wear and scratch the core forming die and will, in all likelihood, have some bearing on uniform density distrubution throughout the core.

The wire should be free of oxidation. If oxidation is very minor, it can be corrected by wiping with a coarse cloth. Major oxidation should be avoided, for the oxidation cannot be completely removed and oxidation in the sub-surface of the lead wire is very abrasive.

A number of home bullet makers reform the wire by pulling lengths thru dies to true up the O.D. and make it uniform. I don't buy that operation. In the first place, so far as I'm concerned, if the wire is so poorly extruded, handled and stored as to cause non-uniform diameters, it isn't suitable for bullet making. The wire, when extruded by properly operated equipment, is as uniform in diameter and density as modern methods can make it. No amount of fooling around with that wire thereafter is going to do it any good in the uniform density category. If you can come up with some procedure which allows the wire to be pushed thru a die rather than pulled, that's another story; but pulling lead wire is bad news in my book.

Another operation that I took part in for a number of years because of what I read and was told, is the business of letting the cores lay around and "stress relieve" after core forming. This theory came about because lead anneals at room temperature. Because the lead has been cold-worked, it was felt that the lead should be allowed the anneal and stress relieve. What

happens next? The core is again re-worked in a cold state when we seat the core in the jacket, and still again when we form the point in the swage die. It does no harm to let them wait for seating, but no improvement is generated by this procedure. I know of two world records that were shot with bullets made the evening before, from core cutting to swaging. Based on experience and observation, the theory of stress relieving and/or annealing doesn't hold water.

The basic bullet jacket is one item we have no control over whatsoever. You take what you get, become as selective as you care to, and pay a dandy price for them these days. Although the cost is up (remember the days of eight bucks a thousand) they don't check any better. J4's are advertised with a minor and uniform error. (Ed. Note: See J-4 product report elsewhere in this issue). Sierra's vary quite a bit, not only within a box of 1000 but also from lot to lot. So we become selective and those jackets that don't measure up to our individual standards are used for sighters or are made up for hunting bullets and there is no loss.

We would really go ape over jackets that had no error. Maybe one of these days that sort of jacket will come along. One of the secrets of the success of the Remington 22 match bullets is the high selectivity of copper used in these bullets and some fine forming procedures. Wall thickness error of these bullets is mighty small, at least on those lots we have checked.

The home bullet maker will not stand around with a problem or error, no matter how minor. L. E. Wilson back in the mid-50's, went after the problem of jacket wall thickness error and what it does to groups. Precision Shooting, March, 1974, had a re-print of an article L.E. Wilson wrote on his experiences which were first printed in the American Rifleman in the 50's. No minor factors during these experiments were overlooked. He proved that wall thickness errors have a lot to do with group size.

I'm under the impression that Wilson was also the first to build the required precision equipment required to bore the error out of the jacket. I talked with Ferris Pindell who, by the way, is an endless source of factual information concerning the history and development of benchrest equipment and procedures, about this. Although others came along with like equipment about the same time, Wilson was the Godfather of this procedure and the equipment to do it.

The building of a machine to bore jackets out to zero error is no small undertaking. We are asking this equipment to hold tolerances under .0001". Surprisingly, we have a number of bench rest shooters who have built such equipment. The time spent to check jackets with a ball mike or other method can therefore be used to remove any error present. The result of this expenditure of time, and the money it took to build the jacket borer, produces as perfect a bullet as can be made with copper jackets and lead cores, providing all the other steps of bullet making are carried out in a flawless manner.

We hope to have some pictures and specs of these jacket boring machines in the future and will pass them along to you when received.

SNOWBALL BENCHREST LEAGUE
BLUE TRAIL RANGE
WALLINGFORD, CONNECTICUT
Winter Match Dates

The recently formed Connecticut Benchrest Shooters Association has established winter match dates for Hunter and Heavy Varmint shooting.

Registered Hunter Class matches will be held on January 26, February 23, March 23 and April 27.

Unregistered Hunter Class matches will be held on January 12, February 9, March 9 and April 13.

Heavy Varmint matches (unregistered) will be held on all of the dates mentioned above. May 11 is make-up match day if needed.

Trophies will be given to first three places in each match.

The best five match aggregate will be allowed for the grand aggregate which will award winners to fifth place.

IBS rules will govern all competition.

For further information contact:

Hans Koch
155 Weston Road
Georgetown, Ct. 06829.

CAMILLUS SPORTSMEN'S CLUB
1975 WINTER
BENCHREST PROGRAM

1. January 12, 1975
2. January 26, 1975
3. February 9, 1975
4. February 23, 1975
5. March 9, 1975
6. March 23, 1975
7. April 13, 1975
8. April 27, 1975

Any rifle, any sites. 13 1/2 lb. weight limit. Entry fee $5.00. There will be a time limit of 12 minutes for each relay. Bench rotation will be used. Entries will be accepted until 10:30 a.m. With first relay beginning at 10:00 a.m. Late arrivals will be worked in at our convenience.

There will be a return of 60% each Sunday to the shooters.

Prizes will be awarded for the first three (3) place Aggregate at 100 yards.

(Providing there are enough shooters in attendance)

Prizes will be awarded for each match winner.

We have reloading facilities indoors. Fourteen benches are available. Firing points are covered. Rain, snow or wind does not interfere with our shooting.

Coffee, donuts, hamburgers, soda, hotdogs are available at our Club House.

For information contact:

Henry L. Gonnella, Sr.
Bench Director
420 Hawley Ave.
Syracuse, N.Y. 13202
Phone — 315-474-1746

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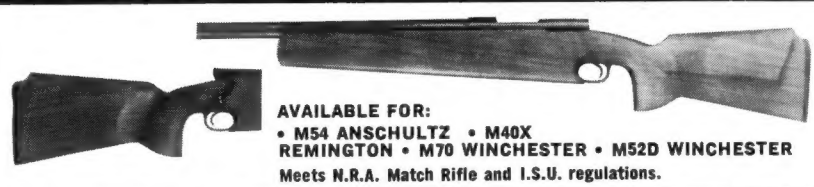

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GREENVILLE GUN CLUB
GREENVILLE, S.C.
SOUTH CAROLINA
STATE CHAMPIONSHIP
I.B.S. REGISTERED
October 26, 1974

Our Third Annual State Championship Matches were held on a most beautiful autumn weekend. But this same weekend was the opening of deer season in our state and it really took its toll on our attendance.

Ralph Thomas, from Belton, S.C., is the 3-Gun Champion. Ralph started his bid early in the day by placing first in the Sport Championship. He finished second in Light Varmint and fourth in Heavy Varmint to post a .3527 3-gun aggregate and claim the title.

Ralph Thomas also won the Sporter Championship, with a most respectable .2982 aggregate. Ralph used a Hart built 6X47, Lyman 20X scope, 25.0 grs. 4198 pushing Detsch 65 gr. bullets and Remington 7 1/2 primers.

James Coffey, from Boone, N.C., is the Light Varmint Champion. James' winning aggregate was .3268, using a Remington factory .222, 40XBR, Lyman 20X scope, 20.5 grs. 4198 and Rem. 7 1/2 primers.

Billy LaBoon, from Cayce, S.C., won the Heavy Varmint Championship. His consistant shooting, although he did not win a single individual match, earned him first place with a .3282 aggregate. Billy used a Seitz built .222 with McMillan barrel and Remington's XP-100 action, Lyman 20X scope, 20.0 grs. 4198, Remington .52 gr. bullets and the new C.C.I. BR-4 primers.

Fifteen permanent concrete benches were installed prior to this shoot, and most of the shooters' comments were that the new benches are as good as any they have ever used.

Complete results are as follows:

INDIVIDUAL MATCH WINNERS:

Sporter

W.U. Harold Morgan ..... .331
1. Billy LaBoon ..... .183
2. Ralph Thomas ..... .188
3. Billy LaBoon ..... .215
4. James Coffey ..... .251
5. James Coffey ..... .222

Light Varmint

W.U. Harold Morgan ..... .347
1. Ralph Thomas ..... .230
2. James Coffey ..... .307
3. Harold Morgan ..... .190
4. Ed Watson ..... .157
5. Billy LaBoon ..... .236

Heavy Varmint

W.U. Pelham Moss ..... .337
1. Ed Watson ..... .180
2. Robert Davis ..... .251
3. Harold Morgan ..... .358
4. Ralph Thomas ..... .300
5. James Coffey ..... .249

AGGREGATE FINISHES:

Sporter

1. Ralph Thomas ..... .2982
2. Billy LaBoon ..... .3120
3. Harold Morgan ..... .3674
4. James Coffey ..... .3956
5. Robert Davis ..... .4270
6. Ed Watson ..... .5480

Light Varmint

1. James Coffey ..... .3268
2. Ralph Thomas ..... .3582
3. Harold Morgan ..... .3726
4. Jackie Whitted ..... .4490
5. Ed Watson ..... .4732
6. Billy LaBoon ..... .5034
7. Pelham Moss ..... .5074
8. Robert Davis ..... .6206

Heavy Varmint

1. Billy LaBoon ..... .3282
2. Robert Davis ..... .3878
3. Harold Morgan ..... .4004
4. Ralph Thomas ..... .4016
5. James Coffey ..... .4022
6. Ed Watson ..... .4096
7. Jackie Whitted ..... .5186
8. Pelham Moss ..... .5202

3-GUN AGGREGATE:

1. Ralph Thomas ..... .3527
2. James Coffey ..... .3749
3. Harold Morgan ..... .3801
4. Billy LaBoon ..... .3812
5. Ed Watson ..... .4769
6. Robert Davis ..... .4785

PRECISION SHOOTING MAGAZINE WARM-UP MATCH PATCH WINNERS:

Sporter — Harold Morgan .331
Light Varmint — Harold Morgan .347
Heavy Varmint — Pelham Moss .337

SMALLEST GROUPS

Light Varmint — Ed Watson .157
Heavy Varmint — Ed Watson .180
Sporter — Billy LaBoon .183

Ed Watson, I.B.S. Director

CENTRAL KENTUCKY BENCHREST SHOOTERS
IBS REGISTERED MATCH
September 21 & 22, 1974

Attendance was down due to the terrrible weather we had on the 21st. Several shooters did not participate because of the rain and wind. We did appreciate all the shooters who participated during the bad weather.

Heavy bench at 100 yards was won by Nick Young. The 200 yard aggregate was won by George Umstead who also took first place in the grand aggregate with .2960. The Sporter Class was won by Fred Sinclair with .3852. R. Evans from Winchester, Kentucky placed second with .4512. Becky Sinclair was third with .5015.

On September 22, Nick Young won the Heavy Varmint with a grand aggregate of .4689. D. Cloyd finished second in the grand aggregate with .4693. Russell Evans was third with .4815. The Light Varmint Class was won by Fred Sinclair with .4266. K. Becknell placed second with .5607; this was the first event that she ever participated in. J. Fowler captured third place with .6364.

Heavy Bench	**100 yd.**	**Place**	**200 yd.**	**Place**	**Gr. Agg.**	**Place**
G. Umstead	.2622	2	.3298	1	.2960	1
N. Young	.2398	1	.3876	4	.3137	2
J. Campbell	.3058	3	.3417	2	.3238	3
Heavy Varmint	**100 yd.**	**Place**	**200 yd.**	**Place**	**Gr. Agg.**	**Place**
N. Young	.4322	6	.5056	1	.4689	1
D. Cloyd	.3838	2	.5748	4	.4693	2
R. Evans	.4142	4	.5488	2	.4815	3
Light Varmint	**100 yd.**	**Place**	**200 yd.**	**Place**	**Gr. Agg.**	**Place**
F. Sinclair	.2720	1	.5812	1	.4266	1
K. Becknell	.4260	2	.6958	2	.5607	2
J. Fowler	.4582	3	.8146	4	.6364	3
Sporter Class	**100 yd.**	**Place**	**200 yd.**	**Place**	**Gr. Agg.**	**Place**
F. Sinclair	.3364	1	.4340	1	.3852	1
R. Evans	.3948	2	.5075	3	.4512	2
B. Sinclair	.5486	4	.4543	2	.5015	3

L. R. Carman, Reporter

Product Report

J-4 Bullet Jackets

Searching for the ultimate components for the manufacture of handmade, or homemade, benchrest bullets often sends the basement bullet maker into fits of frustration when it is discovered that the particular lot of jackets on hand will exhibit about as much concentricity as the rings caused by tossing a pebble into a raging river.

Recognizing the desire of the benchrest shooter for an outstanding jacket with the needed concentricity J-4, a Tustin California based company, is marketing jackets which they advertise to be "Certified Match Quality Bullet Jackets". The claim is that these jackets will feature .0003" concentricity. The jackets are offered in 22 cal., 30 cal., and 6mm.

A quantity of 6mm jackets were sent to Precision Shooting for a look as we were curious about the bullet making process and had planned to begin learning about the practices and methods of making the fine bullets necessary for benchrest accuracy. As it turned out we did not find the time to delve into this interesting area and the jackets were gathering dust on a shelf over the reloading bench.

Initial measurements did, however, reveal that the J-4 jackets stand up to the .0003" concentricity test as well as being very uniform in both length and weight, at least in the lot that we tested. Further experimentation had to be done.

Recognizing that I was probably not the best man to be testing J-4 jackets due to my inexperience in this field I happened to discuss my little problem with Clarence Detsch, the bulletmaker from St. Mary's, Pa., and he agreed to run the jackets through a set of his excellent dies. I would then run a few accuracy tests to see just how these bullets, made with J-4 jackets, would perform in my 6X47 sporter.

When Clarence returned the bullets he remarked that he had no trouble with the jackets and that he was quite happy with the way in which they performed in his tools.

The only exception, and one reported by others, is that the jackets appear to have a "Lip" at the open end. This lip is reported to offer resistance upon entering the die.

Prior to shooting the new bullets a random lot was weighed and measured for length. The bullets were also passed through my spinner to check on the finished quality.

Fifty of the little jewels were given the check and it was found that they all held a weight which was 66.2 to 66.4 gr. Most were found to be within a .1 gr. variation and only a few caused the .2 spread.

The vernier revealed that they were uniform in length to within .005 over the entire lot tested. Many times the role of the varying bullet lengths found in match bullets is completely overlooked. After several seasons of long range target shooting I am convinced that bullet length effects accuracy far more than we care to admit at this time. The J-4 jackets produced bullets with little variation here.

Spinning the finished bullets produced a variation of only .0003 over the test lot with most of them being .0001 or .0002. It can be argued that spinning bullets only proves that the user owns a spinner. It is not our wish, at this time, to debate the pro or con of bullet spinning, but rather to point out that the finished product provides a mechanical check which is excellent. Assuming the inside concentricity did not change during the forming process the jackets should carry cores which have a center of mass concentric within .0003 of the jacket. Given this much control over the components should improve things for many bullet-makers.

The final test of these bullets will have to come during the next shooting season for fall put an end to formal competition. Some test groups were fired and the accuracy was all that was expected. Thirty rounds were fired using 23.5 gr. 4198, Federal 200 primers and Remington cases. The aggregate for these six groups was a neat .2630. Conditions were perfect, there was no match pressure and everything felt just right as the testing progressed.

Based on this short test it is our feeling that the J-4 jackets will perform well for those who choose to use them. We are looking forward to the opportunity to learn the art of bullet making, hopefully with J-4 jackets, sometime during this winter.

For further information, and prices, contact J-4, Inc. Box 979, Tustin, California, 92680.

R. R. M.

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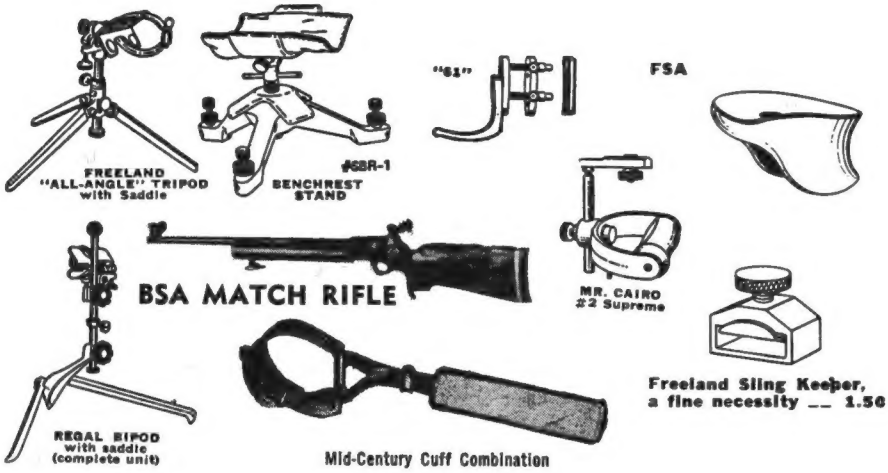

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